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Education and Support for the Czech Reforms

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Educated Czechs fared poorly during the communist regime (1948–89) but have done relatively well since the Velvet Revolution. This phase change is consistent with transition theory and suggests that educated Czechs may be more supportive of the postcommunist reforms as a consequence. To test this hypothesis, the authors examined 11 national surveys (1990–98) of Czech respondents to determine if economic standing and other controls explained the relation between education and attitudes about the country's reforms. They also tested whether the effects of education interacted with phases of the reforms. The results showed that better-educated respondents enjoyed an economic advantage, supportive of transition theory. However, this advantage and other controls did not explain the significant effects of education on attitudes about the Czech reforms. These patterns were stable during the survey period with one exception, as indicated by education * time interaction terms. These findings suggest that values associated with education may play a role in attitudes about postcommunist reforms independent of economic standing, expanding the view that economic experiences during postcommunist reforms differentiate attitudes about them.

The Czechoslovak communist state nationalized property, compressed the wage distribution, and promoted the rural and urban working classes' contribution to socialist society. The government also tightly controlled the educational curriculum and school admissions and monitored all intellectual life. The material standing and social status of edu-

cated Czechs were suppressed by these measures. Czechoslovakia was the one socialist state that practiced nearly uninterrupted "reverse discrimination" on class origin from 1948 to 1990 (Wong 1998).

Since the Velvet Revolution, educated Czechs have experienced a rise in fortunes and status, a possible embourgeoisement of a once-communist society (Szelényi

1988). Have they been also more upbeat about the reforms? Using 11 national surveys from 1990 to 1998, we ask if educated Czechs became less anxious about the economic reforms and more supportive of both the economic and political reforms during that period. Recognizing that postcommunist transitions are not necessarily continuous, we also test if the relation between education and these attitudes about the reforms changed during the period. We define time by the phases of Czech public opinion about the reforms. Early mass euphoria 1990–92 gave way to a differentiation in opinions about the reforms (1992–97 crystallization), with economic winners becoming more supportive and losers becoming more critical of the reforms. This phase was followed by a severe economic downturn (1997–98) and fall-off in support for the reforms (postcrystallization) at the end of the period (e.g., Hraba, Lorenz, and Pechačová 2000; Matějů 1996; Matějů and Rěháková 1996; Večerník 1996; Večerník and Matějů 1999).

We are especially interested in why educated Czechs may have become more supportive of the postcommunist reforms. One reason may be their economic experiences since the reforms. According to Nee (1989:674), "the transition to a marketlike economy should result in higher [income] returns to human capital characteristics." One characteristic he clearly had in mind is education, a position since restated (Cao and Nee 2000). Since 1989, transition theory has been modified (e.g., Nee 1991, 1996; Cao and Nee 2000) but still with the claim that market penetration means better income returns for education. Some research has supported this hypothesis in China, but Zhou (2000) attributed increased returns for education to state policies as much as to the market transition there. Xie and Hannum (1996) found no evidence of education bringing bigger income returns in urban China. In postcommunist Europe, the evidence is also mixed. Brainerd (1998) found improved returns on human capital and occupation, as well as education, in 1991–94 Russia. However, Gerber and Hout (1998) detected no such evidence in 1991–96 Russia. They discerned that returns for higher education

relative to secondary education actually decreased within occupational classes except for women in the state sector. "Supply and barter networks, access to. . . scarce goods, connections . . . skill in. . . pleasure-providing arts—these, not education, are the most important forms of capital in the new Russian market" (p. 37).

The Czech case may be different, however, and support Nee's (1989) claim. First, educated Czechs sprung into the reforms from a tighter compression of their material standing during communism. Gerber and Hout (1998) reported that in socialist Russia, those with university degrees made 17 percent more than those with a secondary education and nearly 50 percent more than those with yet less education. By contrast, there was no association between higher education and income in Czechoslovakia in 1989 (Matějů and Lim 1995). Comparative wages for university-educated Czechoslovak workers declined through the early 1950s as educational credentials were de-emphasized during this Stalinist period. This de-emphasis then stabilized only to be reinforced again after the 1968 Soviet invasion (Hanley et al. 1996; Večerník 1992). Moreover, those in the intellectual class (e.g., university professors, researchers at the academy of sciences, and writers) were disproportionately expelled from their jobs for having opposed that invasion. During the 1980s, incomes of educated workers—especially university-educated workers in services and welfare—fell again relative to manual workers, particularly those in agriculture, mining, and heavy industry (Matějů 1992; Večerník 1992, 1996). The compression of the income distribution in Czechoslovakia was extreme even by socialist standards (Hanley et al. 1996). It had been a demographic distribution of wages, not one based on human capital, with age, gender, agricultural-industrial jobs, and mining correlated with personal earnings and number of household members in the workforce correlated with household income (Večerník 1992).

Furthermore, the Russian economy contracted after the end of communism, people experienced hyperinflation, and many Russians were thrown back to domestic pro-

duction at dachas and subsistence plots (Gerber and Hout 1998). The Czech reforms once stood out, however, as the miracle case among former communist countries in transition. The real growth rates of the gross domestic product dropped early in the reforms (1990–92) but climbed to a peak of 4.81 and 4.09 percent in 1995 and 1996, only to fall in 1997 to 1.3 percent with the economic crisis at the end of the survey period (Turnovec 1998). Inflation spiked at 56.6 percent in 1991 after price liberalization but declined to less than 10 percent by 1994 (Turnovec 1998). Real wages fell early in the reforms but rose each year after 1991, only to fall again between 1997 and 1998 with the economic crisis. Virtual full employment existed in the country from 1990 to 1998. More important, the occupational structure shifted toward the tertiary sector, as we show later, to the advantage of educated workers. The growth in wages was the greatest for workers with a university education, followed by those with a secondary, vocational, and primary education—another advantage. Compared to their Russian counterparts, educated Czechs experienced greater opportunity after 1990 at least up to the postcrystallization phase of our survey period.

If educated Czechs have been economic winners, does this situation explain their possible higher support for the reforms? Przeworski (1991) and Staniszkis (1991) forecasted that different economic experiences would differentiate support for the postcommunist reforms. That is, educated Czechs may have been more supportive of the reforms because communist economic suppression was lifted and the reformed economy simultaneously swung their way. This issue is not as simple as it seems. An incomplete transition to a market economy may dampen returns on education (Róna-Tas 1994; Szelényi and Kostello 1996; Walder 1996), and the supply of educated workers may exceed the demand even during complete transitions. The discontinuous course of a transition may also mean that returns on education may slow during economic contractions (Zhou 2000). We test not only if economic standing explains the relation between education and attitudes about the

Czech reforms, but if this relation changed with the reform phases.

However, there are alternative reasons that educated Czechs may be more supportive of the market and democratic reforms. One begins with Weber's (1968) concept of status culture, or the notion that the educated and uneducated have different values. The educated are thought to be more self-directed, independent, and open to new experiences, among other values. DiMaggio (1982), DiMaggio and Mohr (1985), and Inkeles (1983), to name just a few, have used this hypothesis. Furthermore, Kohn and Slomczynski (1990) found that class position was positively associated with self-direction and negatively associated with conformity to external authority in communist Poland, as it was in the United States, and class position and self-direction were similarly related in postcommunist Poland and the Ukraine (Kohn et al. 1997). The implication is that educated Czechs may be more supportive of the reforms because of such values, not only because of their economic experiences before and since the reforms.

Modernization theory posits that because of these values, the highly educated would press for market and democratic reforms in former communist countries. Education is indeed positively associated with a pro-market ideology in postcommunist Russia (Duch 1993; Gerber 2000). Moreover, this association may be truer for educated Czechs. Educated Czechs experienced more continuous suppression of such values during communism in the forms of the confiscation of books, the lack of freedom to express political and religious opinions, travel restrictions, and reverse discrimination in school admissions and job assignments, as well as relative income. As one Czech interviewee put it, "Stupid people ran all of this with such dumb ideas. . . . They were 'blockheads' and there was not a decent person among them" (Hraba et al. 2000:651). Also, because of the shorter duration (1948–89) of the socialist regime in Czechoslovakia, educated Czechs had fresher memories of bourgeois society and its values than did their Russian counterparts. The new freedom to travel, read, and speak one's mind and expanded consumer

choices with the reforms may also have added to support for the reforms, particularly for educated Czechs (Hraba, Pechačová, and Lorenz 1999). Unfortunately, the data set does not contain measures of these values, precluding a direct test of these competing hypotheses; in addition, Wnuk-Lipiński (1994) found that economic interests soon replaced values in voting sentiments about the Polish reforms. We can test, however, if education has an effect on support for reform net of economic standing, indirect evidence that values may also play a role in the relation between education and attitudes about the Czech reforms.

EDUCATION IN CZECHOSLOVAKIA

During Communism

The Czechoslovak educational system included preschool, compulsory primary school, secondary education tracked into grammar and vocational schools, and colleges-universities, as well as special schools (Hraba et al. 1998; Wong 1998). The socialist state subsidized education, making it free for students at all levels. It distributed those subsidies in a way that favored vocational training, however, and simultaneously curtailed the incomes of university-educated workers (Matějů and Rěháková 1996). Vocational schools were well funded to supply workers to agriculture and industry (about 12 percent and 46 percent of the workforce in 1990). As virtually the sole employer, the state also paid manual workers in agriculture, mining, and industry well (Hraba, McCutcheon, and Večerník 1999).

Two lines of management reached down to every school, one from the Ministry of Education and one from the Party's central committee. In this way, the Party had an impact on both the curriculum and admissions. A former teacher in North Bohemia recalled telling five-year-old pupils again and again about Lenin and the Great October Revolution, illustrative of the routine drill in socialist ideology in classrooms (Hraba et al. 2000). Educational materials celebrating communism and the working classes were composed by a cooperative effort between

the Ministry of Education and the Party. Local Party secretaries decided who would be admitted to school on the basis of the students' background (in favor of working-class children) and political conformity.

State control over intellectual life extended beyond schools. For example, all Czechoslovak libraries were directed in 1953 to ban books that would "retard or impair our journey to socialism" (Sayer 1998:259). The Party dispatched lists of banned works to local libraries, where librarians and Party secretaries removed and sent the works by registered mail either to the Party's Institute of History or to other depositories, where they were kept under lock and key. The meaning of books still on the shelves was revised to fit the journey to socialism. Czech and Slovak history was seen from only one official angle—the class struggle culminating in communism.

Despite the totalitarian pressures on education and specifically the socialist attempt to de-stratify educational access, human (father's education), family financial (material well-being), and cultural (reading and consuming high culture) capital predicted children's educational attainment (Wong 1998). However, socialist factors also contributed to the intergenerational conversion of privilege in Czechoslovakia. For instance, a father's Party membership predicted the educational attainment of his children (Wong 1998).

During the Reforms

With the reforms, Party control over education and intellectual life was eliminated, the curriculum and admission standards were revised to resemble those in the West, and state censorship of intellectual materials was ended. School enrolment and funding shifted from vocational to academic education. New economic realities included the privatization of property, a market economy, and employment in a private sector. Employment opportunity expanded in the tertiary sector but contracted in the primary and secondary sectors favored during communism. Between 1989 and 1994, there was a 46 percent reduction in the number of people employed in agriculture and a 29 percent drop in min-

ers and workers employed in manufacturing and energy. In the same period, there was a 200 percent increase in those employed in the financial sector (Hraba, McCutcheon, and Večerník 1999), and the percentage of Czech workers in the entire tertiary sector rose from 42.7 percent in 1990 to 54 percent in 1997 (Večerník and Matějů 1999). This sector shift in employment was coupled with a virtual information revolution, whereby new technology rushed into the country (Večerník 1999). All these changes indicate that educated Czechs have experienced greater opportunity since the Velvet Revolution.

The shift in the nation's occupational structure coincided with a change in the wage distribution, and educated Czechs did well relative to others. Although not associated with income in 1989 Czechoslovakia, a university education became a strong and positive predictor of it just two years into the reforms, and this trend has continued (Matějů and Lim 1995; Večerník and Matějů 1999). In a national study, the increase in household income between 1994 and 1996 was 31,500 Korun for Czech men with 16 or more years of education, but it was less than half that for those with fewer than 12 years of education (Hraba et al. 1998). Virtually the same was true for women in the study. Czech men with higher education made 165 percent of the average earnings in 1996, up from 144 percent in 1992 (Večerník and Matějů 1999). Professionals made less than 112 percent of the average household income in 1984 but more than 143 percent in 1996. Educated workers who were making the transition to the new private sector, as both employees and self-employed, did especially well, while those still in state jobs in teaching and research, for example, did not (Hraba et al. 1998; Večerník and Matějů 1999). In contrast to educated workers in the tertiary sector, farmers' income fell from 108 percent of the national average in 1984 to 77 percent in 1996, and unskilled manual workers' income slid from about 90 percent to under 80 percent of the national average (Hraba, McCutcheon, and Večerník 1999).

In addition, a dual labor market took shape after 1990. Educated workers concentrated at its core, with job security, better pay and

working conditions, and fringe benefits, whereas uneducated Czechs were increasingly finding jobs at the margin, with little security, lower pay, poorer working conditions, and fewer benefits (Večerník and Matějů 1999). All this became so obvious that getting an education became a strategy for achieving "life success" among Czechs (Matějů and Lim 1995; Matějů and Rěháková 1996). In 1997, 61 percent of the population considered education the route to success, up from 33 percent in 1992 (Večerník and Matějů 1999). University applications increased dramatically, particularly in business-related fields and law, exceeding the capacity of Czech universities to meet the demand (Večerník and Matějů 1999).

By the same token, the Czech government maintained nearly full employment from 1991 through 1996 by privatizing "Czech style" (Tucker et al. 1996-97). It protected jobs by lending money to inefficient enterprises and by picking up the bad debts of "privatized" firms. This policy preserved manual jobs, particularly in large industries, if not agriculture, although the earning power of these workers was declining.

However, there were too many workers producing too few goods, and the cost of low productivity surfaced in the recession of 1997, or the postcrystallization phase. A devaluation of the Czech currency brought austerity measures, such as cutting state welfare and investment, raising taxes, and scaling back job protection. Aggregate unemployment rates rose to 5.4 percent in 1997 and then to 8.7 percent in 1998, contrasted with an average of 2.5 percent between 1991 and 1996. Furthermore, unemployment in the country's heavy industrial and mining regions was at least double that for other regions of the country and was four times the rate in Prague. Workers with only a primary education had an unemployment rate of nearly 13 percent in 1997, compared to 2.7 percent for those with a university education, and the rate for those with vocational secondary education was four times as high (Večerník and Matějů 1999). It seemed that the economic differences between educated and less-educated Czechs deepened at the end of the survey period.

THE STUDY

Our study focused on trends (1990–98) in anxiety about and support for the reforms reported by cross-sectional national samples of Czechs. We asked if demographic controls, occupation, objective economic standing, and subjective economic experience explain the relation between education and these attitudes about the reforms. Specifically, we first examined if education was related to the respondents' anxiety about the economic reforms net of all controls. Then we examined the relation between education and the respondents' support for the economic and political reforms net of the same controls. In doing so, we tested for the main effects of education, reform phases (time), and the interaction between education and time on these trends.

Sample

Immediately following the Velvet Revolution, the Institute of Sociology (1990) at the Czechoslovak Academy of Sciences (now the Czech Academy of Sciences) began a series of periodic national surveys. These surveys were an effort to track the Czech and Slovak people's ability to cope economically, as well as to monitor trends of popular support for the market and political reforms. We used 11 national surveys of Czechs, collected from early 1990 through early 1998, each with samples ranging from 1,110 to 1,400 respondents. Although this data set leads to a potential sample of over 10,000 respondents, the analysis presented here was based on only those cases that provided complete information on all the variables. The reason for most of the missing data is that not all study variables were included in all 11 surveys, especially in the first survey, which we excluded from our analysis. The variables gender, residence, registered for private business, and time had no missing data. Age, marital status, education, and number of economically active members of the household are associated with modest exclusions; for example, excluded respondents were more likely to be older and have an elementary education. Missing data on income are more substantial,

especially in the earlier surveys when the respondents were asked complex questions about income. The net loss is of lower-income and older respondents with lower education.

Each survey consisted of face-to-face interviews conducted by trained interviewers in the respondents' homes. Interviewers were assigned districts and were given a quota of interviews to obtain in proportion to the distributions in those districts of gender, age, and education. The number of respondents and estimates of proportions were based on the 1989 Microcensus of the Czechoslovak Federal Republic. The Czech Academy of Sciences chose quota sampling because the national registry of housing units and occupants was considered unreliable, but the demographic distributors by district were known. Although quota sampling is subject to greater biases than ideal probability sampling, the information provided by these samples gives one a rare glimpse of people's reaction to the transformation.

Measures

Dependent Variables There were two sets of dependent variables. First, the respondents were asked two questions regarding their anxiety about the economic reforms, coded as their security about future economic development and their being unafraid of unemployment. The first question was, "Looking into the near future, are you afraid of economic development? Do you have a feeling of insecurity?" (coded 1 = definitely yes, 2 = yes, 3 = no, and 4 = definitely no). The second question was, "Are you personally afraid of unemployment?" (coded 1 = definitely yes, 2 = yes, 3 = no, and 4 = definitely no). Both questions were asked in the last 10 surveys.

The second set of variables consisted of the respondents' support for the economic and political reforms. In the last six surveys, the respondents were also asked, "Do you generally prefer an economy (1) as socialist, which was in our country before 1989; (2) as a social market with a high degree of state intervention; or (3) as a free market with minimal state intervention?" In the regression analysis, these choices were considered a sequence. The respondents who chose the free market

(1) were compared to those who chose the social market and socialism (0). We compared those who preferred the social market (1) to socialism (0) in a second step.

Regarding the political reforms, the respondents in the 10 surveys were asked, "Would it be better for our country to be ruled by a strong hand and someone who would clearly say what should be done, rather than head discussions about different solutions to our present situation?" (coded 1 = definitely yes, 2 = yes, 3 = no, and 4 = definitely no). Opposition to a return to strong-hand government is not the only way to measure support for the political reforms. Indeed, the respondents who endorsed a strong-hand government may have wanted a more orderly democratic government but not a return to totalitarian communism. With this in mind, we turned to another measure. The respondents were asked in the 10 surveys whether their political orientation was to the Right or the Left (coded 1 = completely Left to 5 = completely Right), with the Left supportive of socialism-communism and the Right supportive of capitalism-democratic reforms.

Independent Variables Education was divided into four-levels: (1) elementary, (2) vocational training, (3) secondary school, and (4) university or college. It was dummy coded in the regressions to compare elementary, vocational, and university education with secondary education. Age was measured as respondent-reported years of age. Three dichotomous variables, sex, marital status, and size of residence, were "effects coded" (cf. Hagenars 1990) to minimize collinearity. Consequently, men and women were coded 1 and -1, respectively, and marital status was coded as single, divorced, and widowed grouped together (-1) and married for the first time and married more than once grouped together (+1). Residence was also effects coded, with residents of communities of fewer than 2,000 and more than 2,000 coded -1 and 1, respectively. This cutting point is used by census agencies in the country, and economic experiences have been different for rural and urban residents since the reforms (Hraba, McCutcheon, and Večerník 1999).

The respondents' occupations, based on the International Standard of Occupations, are presented in Table 1. The occupations of respondents in the civilian labor force ranged from professions to unskilled work, with both pensioners and those out of the workforce coded separately as yes (1) and no (0). The respondents who were out of the labor force included students and housewives, as well as the unemployed. Occupation was dummy coded in the regressions, and the reference category was unskilled labor.

Since personal income is clearly a critical variable and the currency was devalued several times through the decade, we adjusted self-reported monthly personal income by the Current Price Index to obtain amounts in constant January 1994 Korun. To assess the respondents' wealth, we used their estimation of the money it would take to compensate them for the loss of all their property, assets, and possessions (1 = less than 50,000, 2 = 50,000–90,000, 3 = 100,000–190,000, 4 = 200,000–299,000, 5 = 300,000–399,000, 6 = 400,000–499,000, 7 = 500,000–599,000; 8 = 1–2 million; 9 = more than 2 million Korun). Registration for the private sector was determined by the question, "Do you have a private business license?" to which the respondents answered yes (coded 2) or no (coded 1). We included a ratio of "economically active" to the total number of household members as an additional measure of the respondents' objective economic standing.

A measure of self-reported subjective economic standing was obtained by asking the respondents, "How can you manage with the income that you have in your household?" (coded 1 = very hard, 2 = hard, 3 = somewhat hard, 4 = somewhat easy, 5 = easy, and 6 = very easy). This variable is highly correlated (.70–.85) with several less frequently asked questions about purchase behaviors, such as whether the respondents were able to afford good food and clothing and were able to save any money in the recent past. Thus, we view the responses to this variable as a general indicator of self-assessed economic strain, coded as ease of management. These measures of the respondents' objective and subjective economic status are possible explanations for any connection between education

and attitudes toward the reforms. Information on past and current membership in the Communist Party was unavailable in the data set.

To measure possible changes in the respondents' anxiety and support for the reforms, we constructed a variable called time. Time was divided into the three phases: early euphoria or precrystallization up to July 1992; crystallization, from 1992 through early 1997; and the postcrystallization phase and economic crisis, from July 1997 to the end of the survey period. In the regressions, the early and late phases were compared against the middle phase of crystallization. The same dummy code was used in the education * time interaction terms.

RESULTS

The means and proportions of the variables are reported in Table 1. The respondents with an elementary education had a significantly older mean age (48.7) than did those with a vocational (43.7), secondary (40.7), and university education (44.1) ($F = 137.22$). More men (58.8 percent) had a university education, and more women had an elementary and secondary education ($\chi^2 = 251.71$). The respondents with higher levels of education were more likely to be married, with 78.6 percent of the university educated, but 56.8 percent of the elementary educated, being married ($F = 291.88$). Many university-educated respondents were officials-professionals (42.3 percent), while the majority of respondents with a secondary education are technicians-clerks (50.2 percent). The modal occupation for the respondents with a vocational education was craftsman-operator (35.4 percent), and another 25.5 percent were technicians-clerks. The modal occupation for the respondents with an elementary education was unskilled worker (25.2 percent), with another 18 percent in service work. More than 14 percent of those with an elementary education were pensioners.

The monthly personal income in constant Korun was significantly higher for educated respondents, with the university educated reporting the highest income ($F = 84.26$). The

same was true for respondent-reported wealth ($F = 186.85$). University-educated respondents were the most likely to report being registered for private business (31.8 percent), and those with an elementary education (13.3 percent) were the least likely ($\chi^2 = 264.89$). The elementary-educated respondents reported a higher ratio of adult household members in the labor force ($F = 111.22$). The university-educated respondents reported the highest mean level of ease of managing on household income (3.53), and those with an elementary education (2.70) reported the most economic strain ($F = 195.78$).

Is level of education associated with anxiety about and support for the reforms? The university-educated respondents were the most secure about the economic reform (2.58), and those with an elementary education were the least (2.05) ($F = 121.25$). Those with a university education are the least afraid of unemployment (3.01), and those with an elementary education were the most afraid (2.34) ($F = 108.68$). The university-educated respondents were the most likely to prefer a free market or social market (49.4 percent and 48.5 percent), whereas the elementary-educated respondents were more likely to prefer a social market and socialism (59.2 percent and 17.1 percent). The elementary-educated respondents were less likely to oppose a strong-hand political solution than were the better educated ($F = 123.76$), and the latter were more likely to indicate a political orientation on the Right ($F = 122.08$).

Anxiety About the Economic Reforms

Is education related to attitudes about the Czech reforms, and are these relations net of controls for demographic characteristics, including occupation, objective and subjective economic standing, and reform phases or time? We used a blockwise approach to including variables by first entering the demographic characteristics, including occupation and time, and then introducing education. After introducing education, we added a sequence of mediating variables starting with objective economic standing, followed by subjective economic standing and finally the

Table 1. Descriptive Statistics (with Standard Deviations)

	N	Elementary	Vocational	Secondary	University	F	χ^2 (df)
<i>Independent Variables</i>							
Age	11,825	48.7 (18.11)	43.7 (14.98)	40.7 (14.73)	44.1 (13.96)	137.22	251.71 (3)
Sex (% male)	11,826	39.2	54.2	42.8	58.8		291.88 (3)
Marital status (% married)	11,803	56.8	72.8	70.9	78.6		18.28 (3)
Residence (% over 2000)	11,813	77.2	77.7	80.3	81.6		5023.71 (21)
<i>Occupation (%)</i>							
Officials/professionals	965	.5	1.1	12.1	42.3		
Technicians/clerks	3,404	13.5	25.5	50.2	25.3		
Service workers	1,133	18.0	10.6	4.1	3.0		
Skilled agricultural workers	608	8.1	4.2	2.3	10.1		
Craftsmen/operators	2,474	13.7	35.4	15.3	5.6		
Unskilled	1,712	25.2	16.1	5.9	10.0		
Students/housewives/ unemployed	439	6.9	1.0	5.7	1.4		
Pensioners	819	14.1	6.0	4.3	2.3		
Income (10,000 Korun)	11,559	.58 (.62)	.76 (.79)	.78 (.77)	.97 (.90)	84.26	
Wealth	11,678	4.78 (2.24)	5.61 (2.10)	5.92 (2.12)	6.13 (2.03)	186.85	
Registered for private business (% registered)	10,664	13.3	25.5	30.4	31.8		264.89 (3)
Adult-to-child ratio	11,779	.85 (.24)	.78 (.26)	.74 (.27)	.74 (.26)	111.22	
Ease of management	11,794	2.70 (1.10)	2.99 (1.08)	3.17 (1.08)	3.53 (1.08)	195.78	
<i>Dependent Variables</i>							
Security	11,811	2.05 (.93)	2.22 (.92)	2.38 (.92)	2.58 (.92)	121.25	
Unafraid of unemployment	10,063	2.34 (1.21)	2.57 (1.08)	2.72 (1.04)	3.01 (.98)	108.68	
Support for type of economy (%)	2,975	23.1	33.0	42.0	49.4		522.12 (6)
Free market	4,762	59.2	58.5	54.9	48.5		
Social market	698	17.1	8.5	3.1	2.1		
Socialist	8,120	2.16 (.97)	2.36 (1.00)	2.60 (.99)	2.84 (.96)	123.76	
Oppose a strong hand	10,330	2.94 (.98)	3.16 (.98)	3.37 (.95)	3.49 (.96)	122.08	
Rightist political orientation							

education-by-time interaction terms if significant. In this model, occupation is considered an exogenous control variable, rather than a mediating variable, as is usually done in Western Europe and the United States. Although education sorts individuals into occupations, both in the West and in Central Europe, most of this sorting occurs shortly after individuals complete their education. In this study, we focused on men and women who, for the most part, established their place in the labor force before the transformation began. We were interested in examining the distinctive role of education in predicting attitudes about the reforms independent of the occupations the respondents sorted into under the old regime. This is a conservative test of education's independent relation to support for the reforms. One should keep in mind that if occupation were to be entered after education, then the total effect of education would be larger.

Equation 1 in Table 2 contains regressions with demographic and time controls, and Equation 2 includes education. Equation 3 includes objective economic standing, and Equation 4 contains subjective economic standing as well. We focus on the final equation. Age and sex are related to being secure about the economic reforms, with younger and male respondents reporting more security. Officials-professionals, technicians-clerks, and respondents who were out of the labor force were more secure than the unskilled. Furthermore, all five measures of objective and subjective economic standing are related to security about the economic reforms in the expected directions. Wealth, being registered for a private business, and being a member of an economically active household are positively associated with security, as is ease of management. Income is positively associated with security in Equation 3 but negatively associated in Equation 4 because of its collinearity with ease of management. Economic standing and occupation are related to a sense of security about the Czech economic reforms in predictable ways.

A more important question is, is education associated with this sense of security net of economic standing and other controls? The answer is yes. As can be seen in Equation 4,

the respondents with an elementary and vocational education were less secure than were those with a secondary education, but the university educated were more secure. Note that the coefficients indicate a progression, with negative effects for poorer education to positive effects for better education. Education is positively related to security about the Czech economic reforms after all controls, although education's indirect effects are slightly larger than its direct effect for two of the three comparisons, as shown in Table 8 on decomposition of effects. In regard to time, the respondents' sense of security dropped in the postcrystallization phase compared to the crystallization period, but the education * time interaction terms are insignificant and not reported. The final equation shown explains almost 20 percent of the variance in security about the economic reforms.

In Table 3, a similar story unfolds with regard to education and being unafraid of unemployment, our second indicator of anxiety about the economic reforms. As Equation 5 indicates, the respondents with an elementary and vocational education were more afraid of unemployment than were those with a secondary education, but the university educated were less afraid net of all controls. Again, note the progression of effects from negative to positive for higher levels of education. The direct effects of education are larger than the indirect effects on being unafraid of unemployment (see Table 8). Some of the education * time interaction terms are significant; specifically, the respondents with an elementary education were more unafraid of unemployment in the first and third phases of the reforms than in the middle phase.

Among the demographic controls, men were less afraid, as were the unmarried. Compared to the unskilled, service workers were less afraid of unemployment, but those who were out of the workforce and pensioners were more afraid. The high-income, wealthy respondents and those who were registered for private businesses were less afraid of unemployment, as were those who reported ease of managing on household incomes. Although economic standing is

Table 2. Unstandardized Regressions for Security

Independent Variables	Security (N = 9,946)											
	Equation 1			Equation 2			Equation 3			Equation 4		
	B	SE		B	SE		B	SE		B	SE	
Age	-.005***	.001		-.004***	.001		-.005***	.001		-.004***	.001	
Sex	.104***	.010		.086***	.010		.073***	.010		.058***	.009	
Marital Status	.011	.010		-.003	.010		-.015	.011		-.023*	.010	
Residence												
Occupation	-.001	.011		-.006	.011		-.000	.011		-.011	.010	
Officials/professionals	.362***	.039		.103*	.044		.115**	.043		.086*	.041	
Technicians/clerks	.206***	.030		.095***	.031		.093***	.031		.063*	.029	
Service workers	.032	.038		.033	.037		.060	.037		.047	.035	
Skilled agricultural workers	.079	.047		.017	.046		.014	.046		-.012	.043	
Craftsmen/operators	.037	.031		.008	.031		.026	.031		.017	.029	
Students/housewives/unemployed	.326***	.057		.286***	.057		.271***	.056		.198***	.053	
Pensioners	.021	.045		-.007	.044		.038	.044		.017	.042	
Time												
Prerecrystallization	-.084***	.020		-.066***	.020		-.039	.021		-.027	.020	
Postcrystallization	-.435***	.028		-.426***	.028		-.476***	.028		-.399***	.026	
Education												
Elementary												
Vocational												
University												
Objective Economic Status												
Income (10,000 Korun)												
Wealth												
Registered for private business												
Adult-to-child ratio												
Subjective Economic Experience												
Ease of management												
Constant			2.430***			2.558***			2.004***			1.456***
R ²			.055			.071			.100			.199
R ² change						.016***			.099***			.099***

* p < .05, ** p < .01, *** p < .005.

Table 3. Unstandardized Regressions for Unafraid of Unemployment

Independent Variables	Unafraid of Unemployment (N = 8,340)														
	Equation 1			Equation 2			Equation 3			Equation 4			Equation 5		
	B	SE		B	SE		B	SE		B	SE		B	SE	
Age	-.003***	.001		-.001	.001		-.000	.001		-.000	.001		-.000	.001	
Sex	.130***	.012		.105***	.012		.077***	.012		.067***	.012		.066***	.012	
Marital Status	.028*	.013		.007	.014		-.019	.014		-.028*	.014		-.029*	.014	
Residence	.038*	.015		.028*	.014		.029*	.014		.018	.014		.019	.014	
Occupation															
Officials/professionals	.345***	.050		-.013	.056		.023	.055		-.009	.053		-.013	.053	
Technicians/clerks	.214***	.038		.062	.040		.074	.039		.046	.038		.037	.038	
Service workers	.141***	.049		.150***	.048		.193*	.047		.181***	.046		.185***	.046	
Skilled agricultural workers	.073	.060		-.005	.060		.016	.058		-.017	.057		-.020	.057	
Craftsmen/operators	-.014	.039		-.056	.040		-.018	.039		-.023	.038		-.026	.038	
Students/housewives/unemployed	-.208***	.073		-.248***	.073		-.214***	.072		-.282***	.070		-.283***	.070	
Pensioners	-.356***	.078		-.369***	.077		-.254***	.075		-.276***	.073		-.266***	.073	
Time															
Pre-crystallization	.275***	.029		.293***	.028		.302***	.029		.307***	.028		.176***	.050	
Post-crystallization	-.161***	.034		-.147***	.034		-.232***	.033		-.164***	.032		-.244***	.059	
Education															
Elementary				-.407***	.037		-.293***	.037		-.230***	.036		-.437***	.044	
Vocational				-.195***	.031		-.162***	.030		-.129***	.029		-.144***	.036	
University				.262***	.044		.225***	.043		.162***	.042		.198***	.051	
Objective Economic Status															
Income				.167***	.018		.167***	.018		.092***	.018		.097***	.018	
Wealth				.049***	.006		.049***	.006		.024***	.006		.025***	.006	
Registered for private business				.326***	.027		.326***	.027		.264***	.027		.268***	.027	
Adult-to-child ratio				.116*	.049		.116*	.049		-.012	.048		.001	.048	
Subjective Economic Situation															
Ease of management															
Education * Time															
Elementary * Pre-crystallization															
Vocational * Pre-crystallization															
University * Pre-crystallization															
Elementary * Post-crystallization															
University * Post-crystallization															
Constant	2.560***			2.728***			2.095***			1.638***			1.672***		
R ²	.048			.072			.114			.162			.171		
R ² change				.024***			.043***			.048***			.009***		

* p < .05, ** p < .01, *** p < .005.

related to fear of unemployment in expected ways, education still has an independent effect on being unafraid of unemployment. The final equation in Table 3 explains 17 percent of the variance in being unafraid of unemployment.

Support for Economic Reforms

Our next set of analyses extends transition interests to the role of education on support for postcommunist reforms. The Czech reforms are both economic (a socialist to a market economy) and political (a one-party state to a multiparty democracy). We asked if education is related to support for the economic and political reforms net of economic standing and other controls? In Tables 4 and 5, we report the results of a set of logistic regressions (Amemiya 1985; Fox 1997; Greene 1997; Long 1997) of responses to preferred economic forms on the demographic, time, education, and economic-standing variables. In Table 4, we compare the "free market" with the "social market" and "socialist" responses, and in Table 5, we compare the preference for the social market to the preference for retaining the socialist command economy. Equation 1 contains results with only demographic controls and time, Equation 2 includes education, Equation 3 includes objective economic standing, and Equation 4 includes subjective economic standing as well.

In the last equation, age and sex are associated with preference for the free market, with younger and male respondents choosing the free market compared to the social market and socialist alternatives. Skilled agricultural workers were less likely to prefer the free market, but those out of the labor force were less likely to prefer the free market compared to the unskilled respondents. Note that in Equation 2, other significant occupational comparisons (Equation 1) become insignificant after education is entered. Preference for the free market is related to economic standing, specifically with wealth, being registered for private business, and ease of managing on household incomes.

However, net of economic standing and other controls, education is related to the

free-market choice in expected directions. Compared to those with a secondary education, the respondents with an elementary and vocational education were less likely to prefer the free market, and those with a university education were more likely. As before, the coefficients indicate a progression from negative to positive effects for higher levels of education. The direct effects of education on this choice are greater than the indirect effects (see Table 8). As for time, the free-market choice was more popular in the reform's first phase than in the second phase but less so in the last phase. The education * time interaction terms are insignificant and not shown. This final equation explains nearly 15 percent of the variance in preference for the free market relative to two other alternatives according to the Cox and Snell analogue.

A similar story is shown in Table 5, in which we compare preference for the social market to preference for socialism. As is shown in Equation 4, relative to those with a secondary education, the respondents with an elementary and vocational education were less likely to prefer a European social market net of controls. Education's direct effects are larger than its indirect effects in these two comparisons (see Table 8). There is no significant difference between the respondents with a university and secondary education in this choice. Among the controls, the younger and urban respondents preferred the social market, and pensioners, those out of the labor force, and technicians-clerks made this choice compared to the unskilled. The wealthy, those who were registered for private businesses, and respondents reporting greater ease of management preferred the social market. Once more, economic standing is associated with attitudes about the Czech reforms but does not fully account for the impact of education on these attitudes. With respect to time, the social-market choice was more popular early in the reforms and then remained unchanged. Education * time interaction terms are insignificant and not shown. This final equation explains almost 12 percent of the variance in the preference for the social market compared to socialism (Cox & Snell analogue).

Table 4. Logistic Regressions Comparing Free Market to Socialist/Social Market (N = 7,757)^a

Independent Variables	Equation 1		Equation 2		Equation 3		Equation 4	
	B	SE	B	SE	B	SE	B	SE
Age	-.024***	.022***	-.022***	.022	-.023***	.022	-.023***	.022
Sex	.252***	.026	.213***	.026	.176***	.027	.164***	.028
Marital Status	.064*	.028	.034	.029	.014	.032	.002	.032
Residence	.019	.031	.005	.031	.008	.031	-.013	.032
Occupation								
Officials/professionals	.522***	.104	-.078	.118	-.016	.120	-.061	.122
Technicians/clerks	.293***	.081	.031	.086	.042	.088	.005	.090
Service workers	-.172	.107	-.163	.108	-.098	.111	-.113	.113
Skilled agricultural workers	-.183	.135	-.340*	.138	-.341*	.141	-.410***	.144
Craftsmen/operators	.042	.084	-.028	.087	.039	.089	-.033	.091
Students/housewives/unemployed	.561***	.143	.507***	.147	.563***	.151	.468***	.154
Pensioners	.118	.138	.053	.140	.221	.142	.246	.145
Time								
Precrystallization	.756***	.070	.774***	.071	.801***	.073	.809***	.074
Postcrystallization	-.322***	.071	-.302***	.072	-.461***	.074	-.359***	.076
Education								
Elementary			-.704***	.081	-.551***	.083	-.445***	.085
Vocational			-.335***	.064	-.306***	.066	-.242***	.067
University			.429***	.089	.378***	.091	.279***	.093
Objective Economic Status								
Income (10,000 Korun)					.213***	.042	.079	.042
Wealth					.090***	.013	.048***	.014
Registered for private business					.560***	.059	.472***	.060
Adult-to-child ratio					.418***	.107	.207	.109
Subjective Economic Experience								
Ease of management							.430***	.027
Constant		.202***		.493***		-.664***		-1.529***
Cox and Snell R ²		.072		.088		.115		.146
R ² change				.016		.027		.031

* $p < .05$, ** $p < .01$, *** $p < .005$.^a Free market is coded 1.

Table 5. Logistic Regressions Comparing Social Market to Socialism (N = 5,467)^a

Independent Variables	Equation 1		Equation 2		Equation 3		Equation 4	
	B	SE	B	SE	B	SE	B	SE
Age	-.039***	.003	-.033***	.003	-.036***	.004	-.038***	.004
Sex	.149***	.047	.085	.049	.078	.049	.070	.049
Marital Status	.101*	.047	.065	.048	.013	.051	-.014	.051
Residence	.121*	.052	.116*	.053	.138*	.053	.149**	.053
Occupation								
Officials/professionals	1.595***	.264	.475	.297	.448	.300	.364	.300
Technicians/clerks	.916***	.141	.395*	.153	.348*	.155	.268*	.155
Service workers	.112	.154	.060	.156	.096	.157	.063	.157
Skilled agricultural workers	.146	.189	.037	.193	.010	.194	-.087	.194
Craftsmen/operators	.296*	.134	.127	.139	.126	.140	.085	.140
Students/housewives/unemployed	2.537*	.986	2.450*	.984	2.295*	.985	2.020*	.985
Pensioners	.732***	.184	.554***	.187	.596***	.188	.572***	.188
Time								
Pre-crystallization	.776***	.184	.828***	.185	.901***	.188	.859***	.188
Post-crystallization	-.006	.114	.012	.115	-.036	.118	.087	.118
Education								
Elementary			-1.345***	.164	-1.266***	.167	-1.152***	.167
Vocational			-.878***	.156	-.861***	.157	-.800***	.157
University			.350	.294	.324	.296	.220	.296
Objective Economic Status								
Income (10,000 Korun)								
Wealth					-.016	.107	-.216	.107
Registered for private business					.097***	.023	.055*	.023
Adult-to-child ratio					.465***	.155	.417**	.155
Subjective Economic Experience					.403	.215	.211	.215
Ease of management							.555***	.027
Constant	3.261***		4.041***		3.217***		2.386***	
Cox and Snell R ²	.068		.086		.092		.116	
R ² change			.018		.006		.024	

* p < .05, ** p < .01, *** p < .005.

^aSocial market is coded 1.

Support for the Political Reforms

Finally, we examine the respondents' support for the political reforms, namely, their opposition to a strong-hand government and their political orientation to the Right. Throughout Central and Eastern Europe, support for a strong hand is symbolic of support for the authoritarian regimes prior to 1989. Table 6 reports the results of the ordinary least-squares regression of this measure on education. The first equation includes demographic controls and time, the second also includes education, the third includes objective economic standing, and the fourth includes subjective economic standing as well. We focus on the final equation.

As is the case for support for the economic reforms, education is significantly related to opposing a strong-hand government net of all controls. Compared to those with a secondary education, the respondents with an elementary and vocational education were less opposed to a strong-hand government, but the university educated were more opposed. Again, the coefficients indicate a progression from negative to positive effects for higher levels of education. The direct effects of education are larger than the indirect effects in all three comparisons (see Table 8). Among the controls, income, wealth, being a member of an economically active household, and reporting ease of management are associated with opposing a strong-hand government in the expected directions (see Equation 4). Technicians-clerks and those who were out of the workforce were more opposed to a strong-hand government than were the unskilled. Yet again, economic standing, including occupation, is related to support for reform, political reform in this case, but education still has an independent effect on support for the political reforms. Regarding time, opposition to a return to a strong-hand government was less during the reform's initial and third phases than in the second. The education * time interaction terms are insignificant and not shown. The final equation explains 8 percent of the variance in the respondents' opposition to a strong-hand government.

A comparable story is seen in Table 7 with

respect to political orientation. Net of all controls (Equation 4), education is related to a rightist political orientation. The respondents with an elementary and vocational education were less rightist than were those with a secondary education. However, there is no significant difference between the university educated and those with a secondary education. The direct effects of education are larger than its indirect effects in the two significant comparisons (see Table 8). The indicators of economic standing, wealth, being registered for a private business, and ease of managing on household incomes are related to a rightist political orientation. The younger, male, and unmarried respondents were also more rightist. As for time, a rightist orientation fell in popularity between the second and third phases of the reforms. The education * time interaction terms are insignificant and not shown. The final equation explains almost 15 percent of the variance in political orientation.

DISCUSSION

Since the Velvet Revolution, educated Czechs have improved their economic standing. They are more likely to be employed and working in the newly expanded private sector, and their income and wages are now well above the national average (except for state employees in research and health services). The new economy values education. In this context, we did a trend analysis to determine if economic standing during the reforms explained the relation between education and attitudes about them.

First, we found that education was indeed related to occupation and objective and subjective economic standing during the survey period. The modal occupation of the university-educated respondents was official-professional, the modal occupation of those with a secondary education was technician-clerk, the modal occupation of those with a vocational education was craftsman-operator, and the modal occupation of those with an elementary education was unskilled or service worker. The educated respondents reported more personal income and wealth, were

Table 6. Unstandardized Regressions for Opposing a Strong Hand

Independent Variables	Strong Hand (N = 7,562)												
	Equation 1			Equation 2			Equation 3			Equation 4			
	B	SE		B	SE		B	SE		B	SE		
Age	-.004***	.001		-.002**	.001		-.002	.001		-.001	.001		
Sex	.053***	.012		.030*	.012		.027*	.012		.022	.012		
Marital Status	.038***	.013		.019	.013		-.003	.014		-.008	.014		
Residence	.021	.014		.012	.014		.016	.014		.009	.014		
Occupation													
Officials/professionals	.428***	.049		.111*	.055		.116*	.055		.097	.055		
Technicians/clerks	.228***	.037		.097*	.039		.096*	.039		.082*	.038		
Service workers	-.027	.048		-.017	.047		-.002	.047		-.010	.047		
Skilled agricultural workers	.109	.058		.037	.058		.035	.058		.018	.057		
Craftsmen/operators	.051	.039		.018	.039		.024	.039		.021	.038		
Students/housewives/unemployed	.328***	.070		.295***	.069		.276***	.070		.242***	.069		
Pensioners	.089	.057		.062	.057		.095	.057		.094	.056		
Time													
Prerecristallization	-.192***	.027		-.172***	.026		-.154***	.027		-.154***	.027		
Postcristallization	-.194***	.032		-.181***	.032		-.208***	.032		-.172***	.032		
Education													
Elementary				-.356***	.035		-.315***	.035		-.282***	.035		
Vocational				-.177***	.030		-.165***	.030		-.148***	.030		
University				.238***	.043		.229***	.043		.194***	.043		
Objective Economic Status													
Income (10,000 Korun)							.013	.018		-.024	.018		
Wealth							.028***	.006		.015**	.006		
Registered for private business							.103***	.027		.069*	.027		
Adult-to-child ratio							-.068	.058		-.151*	.058		
Subjective Economic Experience													
Ease of management										.129***	.011		
Constant												2.261***	
R ²													.081
R ² change													.017***

* p < .05, ** p < .01, *** p < .005.

Table 7. Unstandardized Regressions for Rightist Political Orientation

Independent Variables	Rightist Political Orientation (N = 8,531)											
	Equation 1			Equation 2			Equation 3			Equation 4		
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Age	-.012***	.001	-.011***	.001	-.011***	.001	-.010***	.001	-.010***	.001	-.010***	.001
Sex	.066***	.011	.046***	.011	.030**	.011	.022*	.011	.022*	.011	.022*	.011
Marital Status	-.004	.012	-.020	.012	-.044***	.012	-.052***	.012	-.052***	.012	-.052***	.012
Residence	.031*	.013	.026*	.013	.030*	.013	.022	.012	.022	.012	.022	.012
Occupation												
Officials/professionals	.313***	.045	.048***	.050	.071	.049	.047	.049	.047	.048	.047	.048
Technicians/clerks	.160***	.034	.037***	.035	.042	.035	.021	.035	.021	.034	.021	.034
Service workers	-.025	.043	-.021	.043	.008	.042	-.003	.042	-.003	.041	-.003	.041
Skilled agricultural workers	.032	.053	-.024	.052	-.018	.052	-.043	.051	-.043	.051	-.043	.051
Craftsmen/operators	.001	.035	-.036	.035	-.012	.035	-.016	.034	-.016	.034	-.016	.034
Students/housewives/unemployed	.249***	.064	.214***	.064	.224***	.064	.161*	.063	.161*	.063	.161*	.063
Pensioners	.029	.053	-.003	.053	.067	.052	.065	.051	.065	.051	.065	.051
Time												
Precrystallization	-.039	.025	-.021	.025	.005	.026	.010	.025	.010	.025	.010	.025
Postcrystallization	-.121***	.030	-.112***	.030	-.168***	.030	-.114***	.029	-.114***	.029	-.114***	.029
Education												
Elementary			-.334***	.032	-.254***	.032	-.202***	.031	-.202***	.031	-.202***	.031
Vocational			-.116***	.027	-.143***	.027	-.115***	.026	-.115***	.026	-.115***	.026
University			.146***	.039	.122***	.038	.068	.038	.068	.038	.068	.038
Objective Economic Status												
Income (10,000 Korun)					.091***	.017	.028	.017	.028	.017	.028	.017
Wealth					.043***	.005	.024***	.005	.024***	.005	.024***	.005
Registered for private business					.236***	.025	.187***	.024	.187***	.024	.187***	.024
Adult-to-child ratio					.079	.044	-.022	.044	-.022	.044	-.022	.044
Subjective Economic Experience												
Ease of management							.197***	.010	.197***	.010	.197***	.010
Constant	3.672***		3.812***		3.336***		2.955***		2.955***		2.955***	
R ²	.063		.080		.107		.148		.148		.148	
R ² change			.017***		.027***		.041***		.041***		.041***	

* p < .05, ** p < .01, *** p < .005.

Table 8. Decomposition of the Effects of Education on Dependent Variables

Dependent Variables	Education	Total Effect	Direct Effect	Indirect Effect
Security	Elementary	-.280	-.139	-.141
	Vocational	-.161	-.104	-.057
	University	.175	.086	.089
Unafraid of unemployment	Elementary	-.407	-.437	.030
	Vocational	-.195	-.144	-.051
	University	.262	.198	.064
Free market	Elementary	-.704	-.445	-.259
	Vocational	-.335	-.242	-.093
	University	.429	.279	.150
Social market	Elementary	-1.345	-1.152	-.193
	Vocational	-.878	-.800	-.078
	University	.350	.220	.130
Oppose a strong hand	Elementary	-.356	-.282	-.074
	Vocational	-.177	-.148	-.029
	University	.238	.194	.044
Rightist political orientation	Elementary	-.334	-.202	-.132
	Vocational	-.116	-.115	-.001
	University	.146	.068	.078

more likely to be registered for private businesses, and indicated a greater ease of managing on their household incomes. They were more secure about the economic reforms and less afraid of unemployment, and the university-educated respondents were the most likely to prefer the free market and least likely to prefer socialism. Regarding the political reforms, the educated respondents were more opposed to a return to a strong-hand government and reported a rightist political orientation, indicative of support for reform.

Next, we tested if the relations between education and these attitudes about the Czech reforms were explained by economic standing and other controls. In one test after another, we found that net of all controls, the better-educated respondents were less anxious about the economic reforms, preferred reformist economic forms, and were more supportive of the political reforms. Compared to those with a secondary education, the respondents with an elementary and vocational education were less secure about the economic reforms and more afraid of unemployment. They were also less likely to prefer the free market, to choose the social market

compared to socialism, to oppose a strong-hand government, and to report a rightist political orientation. By contrast, the university-educated respondents were more secure about the economic reforms and less afraid of unemployment than were those with a secondary education. They were also more likely to prefer the free market and to oppose a return to a strong-hand government. There were no significant differences between the respondents with a university and secondary education with respect to preferring the social market and having a rightist political orientation net of all controls. Except for elementary education * time interactions concerning fear of unemployment, these patterns were stable during the entire survey period, as indicated by insignificant interaction terms.

These independent effects of education were also evident in the decomposition of effects in Table 8. The direct effects of education on fear of unemployment and support for the reforms were greater than the indirect effects. There were only two exceptions with regard to security about the economic reforms. Education had these net and direct effects on attitudes about the Czech reforms

even though economic standing and occupation and other demographic controls were persistently associated with these same attitudes.

Although economic standing did not explain the relation between education and anxiety about and support for the Czech reforms, we must not overlook that it was related to these attitudes. For example, ease of management was associated with all the dependent variables net of controls. Many of the occupational comparisons and indicators of objective economic standing were also associated with anxiety about and support for the reforms. This finding supports the earlier forecast that different economic experiences during the postcommunist reforms would differentiate support for them. Furthermore, education was clearly related to the respondents' economic standing and occupations, suggesting that human capital is now linked to economic returns in the Czech Republic, consistent with transition theory.

However, the principal finding was that education predicted attitudes about the reforms net of controls that included occupation and economic standing, and the pattern was stable throughout the survey period. This finding expands the forecast that economic experiences differentiate support for the postcommunist reforms to include the independent effect of education on this same differentiation. Education may indeed signify a noneconomic set of values, such as self-direction, as opposed to conformity to external authority; a modern outlook; and openness to change. This possibility may explain why educated Czechs have been more supportive of market and political reforms independent of economic standing and why this greater support persisted throughout all the phases of the reforms. In addition, educated Czechs are still aware of the ideological suppression and reverse discrimination during the former regime, and they have experienced status elevation, not just economic opportunity, since the fall of state communism. They are positive about the elimination of state restrictions on international travel and exposure at home to foreign ideas. They are also cognizant of changes in educational institutions since 1990 to the benefit of the better educated, such as the shift in resources toward academ-

ic and away from vocational education. In short, better-educated Czechs are now held in higher regard, enjoy new experiences and more freedom, and are aware that their values are no longer out of favor, in addition to their improved economic position since 1990. The influence of such noneconomic values or status culture, which we were unable to test directly, may account for the persistent and stable net effects of education on attitudes about the Czech reforms.

Educated Czechs went into the transition from a deep suppression of their economic standing, and the new order presented them with economic opportunity. These economic variables do not fully explain, however, the relation between education and support for the reforms. This finding provides indirect evidence for modernization theory—at least the proposition that the educated have values that are supportive of market and democratic reforms. These values, too, were repressed during the previous regime but are now celebrated, another possible reason why educated Czechs were more positive about the reforms. Furthermore, uneducated Czechs have lost the economic security provided during socialism more than have the educated. This relative loss of security may account for educational differences in support for the reforms as much as any difference in values between uneducated and educated Czechs.

Caution should be exercised in extrapolating these findings to other postcommunist countries. Educated Czechs sprang into the reforms not only from a rigid reverse discrimination affecting their economic standing, but from a relentless heavy-handed ideational repression of bourgeoisie values. Especially educated Czechs also saw communism as a foreign imposition. Their resentment of this dual repression is still fresh, reinforced by memories of bourgeois society after only a generation of communism. Educated Czechs simultaneously experienced better economic times and a new confirmation of their values with the reforms. Thus, both economics and values contributed to their support for the reforms. This phenomenon of dual suppression and then a rapid rise or release on both dimensions has not been true for the educated in all postcommunist reforms.

REFERENCES

- Amemiya, Takeshi. 1985. *Advanced Econometrics*. Cambridge, MA: Harvard University Press.
- Brainerd, Elizabeth. 1998. "Winners and Losers in Russia's Economic Transition." *American Economic Review* 88:1094-1116.
- Cao, Yang, and Victor G. Nee. 2000. "Comment: Controversies and Evidence in the Market Transition Debate." *American Journal of Sociology* 105:1175-89.
- DiMaggio, Paul. 1982. "Cultural Capital and School Success: the Impact of Status Culture Participation on the Grades of U.S. High School Students." *American Sociological Review* 47:189-201.
- DiMaggio, Paul, and John Mohr. 1985. "Cultural Capital, Educational Attainment, and Marital Selection." *American Journal of Sociology* 90:1231-61.
- Duch, Raymond M. 1993. "Tolerating Economic Reform: Popular Support for Transition to a Free Market in the Former Soviet Union." *American Political Science Review* 87:590-608.
- Fox, John. 1997. *Applied Regression Analysis, Linear Models, and Related Methods*. Thousand Oaks, CA: Sage.
- Gerber, Theodore P. 2000. "Market, State, or Don't Know? Education, Economic Ideology, and Voting in Contemporary Russia." *Social Forces* 72:477-521.
- Gerber, Theodore P., and Michael Hout. 1998. "More Shock than Therapy: Market Transition, Employment, and Income in Russia, 1991-1995." *American Journal of Sociology* 104:1-50.
- Greene, William H. 1997. *Econometric Analysis* (3rd ed.) Upper Saddle River, NJ: Prentice Hall.
- Hagenaars, Jacques A. 1990. *Categorical Longitudinal Data*. Newbury Park, CA: Sage.
- Hanley, Eric, Petr Matějů Klára Vlachova, and Jindřich Krejčí. 1996. *The Making of Post-Communist Elites in Eastern Europe*. Prague: Academy of Sciences of the Czech Republic.
- Hraba, Joseph, Frederick O. Lorenz, and Zdeňka Pechačová. 2000. "Czech Families Ten Years after the Velvet Revolution." *Journal of Contemporary Ethnography* 29:643-81.
- Hraba, Joseph, Frederick O. Lorenz, Zdeňka Pechačová, and Qiang Liu. 1998. "Education and Health in the Czech Republic." *Journal of Health and Social Behavior* 39:295-316.
- Hraba, Joseph, Allan L. McCutcheon, and Jiří Večerník. 1999. "Rural and Urban Differences in Economic Experience, Anxiety and Support for the Post-communist Reforms in the Czech Republic." *Rural Sociology* 64:439-63.
- Hraba, Joseph, Zdeňka Pechačová, and Frederick O. Lorenz. 1999. *Docet rodin po 10 letech, 1989-1999*. Prague: Academia.
- Inkeles, Alex. 1983. *Exploring Individual Modernity*. New York: Columbia University Press.
- Institute of Sociology. 1990. *Economic Expectations and Attitudes*. Prague: Czechoslovak Academy of Sciences.
- Kohn, Melvin L., and Kazimierz M. Slomczynski. 1990. *Social Structure and Self-Direction*. Oxford: Basil Blackwell.
- Kohn, Melvin L., Kazimierz M. Slomczynski, Krystyna Janicka, Valeri Khmelko, Bogdan W. Mach, Vladimir Paniotto, Wojciech Zaborowski, Roberto Gutierrez, and Cory Heyman. 1997. "Social Structure and Personality under Conditions of Radical Social Change: A Comparative Analysis of Poland and Ukraine." *American Sociological Review* 62:614-38.
- Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables: Analysis and Interpretation*. Thousand Oaks, CA: Sage.
- Matějů, Petr. 1992. "Beyond Educational Inequality in Czechoslovakia." *Czechoslovak Sociological Review* 28:37-60.
- . 1996. "Sociální třídy, postoje k nerovnostem a politické orientace: Vyvoj v letech 1991-1995" [Social trends, attitudes toward rights, and political orientation: Changes during the years 1991-95]. Unpublished manuscript, Sociological Institute, Czech Academy of Sciences, Prague.
- Matějů, Petr, and Nelson Lim. 1995. "Who Has Gotten Ahead after the Fall of Communism? The Case of the Czech Republic." *Czech Sociological Review* 3:117-36.
- Matějů, Petr, and Blanka Rěháková. 1996. "Education as a Strategy for Life Success in the Post-Communist Transformation: The Case of the Czech Republic." *Comparative Education Review* 40:158-76.
- Nee, Victor. 1989. "A Theory of Market Transition: From Redistribution to Markets in State Socialism." *American Sociological Review* 54:663-81.
- . 1991. "Social Inequalities in Reforming State Socialism: Between Redistribution and Markets in China." *American Sociological Review* 56:267-82.
- . 1996. "The Emergence of a Market Society: Changing Mechanisms of Stratification in China." *American Journal of Sociology* 101:908-49.
- Przeworski, Adam. 1991. *Democracy and the Market: Political and Economic Reforms in*

- Eastern Europe and Latin America*. New York: Cambridge University Press.
- Róna-Tas, Ákos. 1994. "The First Shall Be the Last? Entrepreneurship and Communist Cadres in the Transition from Socialism." *American Journal of Sociology* 100:40–69.
- Sayer, Derek. 1998. *The Coasts of Bohemia*. Princeton, NJ: Princeton University Press.
- Staniszki, Jadwiga. 1991. *The Dynamics of the Breakthrough in Eastern Europe: The Polish Experience*. Berkeley: University of California Press.
- Szelényi, Iván. 1988. *Socialist Entrepreneurs: Embourgeoisement in Rural Hungary*. Madison: University of Wisconsin Press.
- Szelényi, Iván, and Eric Kostello. 1996. "The Market Transition Debate: Toward a Synthesis." *American Journal of Sociology* 101:1082–96.
- Tucker, Aviezer, Jana Balharova, Ivo Losman, Jan Nemeč, Jan Nemeček, David Ondracka, Zdenek Polak, Roman Skyva, Martin Vyrkova, and Marketa Zidkova. 1996–97. "Czech Transition: Politics Before Economics." Unpublished manuscript, Department of Politics and European Studies, Palacky University, Olomouc, Czech Republic.
- Turnovec, Frantisek, ed. 1998. *Czech Republic: The Year of Crises 1997*. Prague: Center for Economic Research and Graduate Education.
- Večerník, Jiří. 1992. "The Labor Market in Czechoslovakia: Changing Attitudes of the Population." *Czechoslovak Sociological Review* 28:61–78.
- . 1996. *Markets and People: The Czech Reform Experience in Comparative Perspective*. Aldershot, England: Avebury.
- . 1999. "The Middle Class in the Czech Reforms: The Interplay Between Policies and Social Stratification." *Communist and Post-Communist Studies* 32:397–416.
- Večerník, Jiří, and Petr Matějů. 1999. *Ten Years of Rebuilding Capitalism: Czech Society After 1989*. Prague: Academia.
- Walder, Andrew. 1996. "Markets and Inequality in Transitional Economies: Toward Testable Theories." *American Journal of Sociology* 101:1060–73.
- Weber, Max. 1968. *Economy and Society*. New York: Bedminster Press.
- Wnuk-Lipiński, Edmond. 1994. "The Polish Left-Turn. Sociological and Political Analysis." *Sociologický časopis* 30:413–32.
- Wong, Raymond Sin-Kwok. 1998. "Multidimensional Influences of Family Environment in Education: The Case of Socialist Czechoslovakia." *Sociology of Education* 70:1–22.
- Xie, Yu, and Emily Hannum. 1996. "Regional Variation in Earning Inequality in Reform-era Urban China." *American Journal of Sociology* 101:950–92.
- Zhou, Xueguang. 2000. "Economic Transformation and Income Inequality in Urban China: Evidence from Panel Data." *American Journal of Sociology* 105:1135–74.

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